**Problem 1**

Initial tree

Steps :

1. Compare 13 with root 26, since its less than 26 go to the left
2. Compare 13 with 10 its more so go to the right
3. Compare 13 with 15, since its less go to the left
4. Compare 13 with 12, since its more , it will become the right child

Final tree:

**Problem 2**

Initial tree

Steps

1. Remove the node 42
2. Locate the predecessor of 42 , in this case 42 has two internal nodes , so we find the rightmost node in the left subtree (36)
3. Replace the node 42 with 36
4. Bring the node 31 to the position of 36

Final tree

**Problem 3**

Initial tree

First rotation

Second rotation